

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re Application Serial No. 10/612,434

Applicants: Alan Wu et al

Group Art Unit: 3743

Filing Date: July 2, 2003

Title: BAFFLED SURFACE COOLED HEAT EXCHANGER

Attorney Docket No.: 60680-705

Dear Sir:

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. 1.97(C)

In connection with the U.S. patent application identified above, Applicant wishes to draw to the Examiner's attention the following art, but no representation is made that a comprehensive search has been made or that no better prior art exists.

Enclosed herewith is a List of References Cited By Applicant (PTO-1449) along with copies of each of the listed references which are not U.S. patents or published U.S. patent applications. Attached to the enclosed list is a brief English description indicating the relevance of those references which are not in the English language. It is requested that all of these references be considered, made of record in the prosecution history of this application, and appear among the references cited on any patent to issue from this application.

The Applicant petitions for consideration of this Information Disclosure Statement and authorizes the Assistant Commissioner to deduct the fee of \$180.00 required under 37 C.F.R. §1.97 (c)(2) and 37 C.F.R. §1.17 (p) from Deposit Account No. 13-2400. The Assistant Commissioner is authorized to deduct any additional fees required in connection with this Information Disclosure Statement from Deposit Account No. 13-2400 and to credit any overpayment to Deposit Account No. 13-2400.

EXECUTED at Mississauga, Ontario, Canada, this 31st day of August, 2005.

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Respectfully submitted,

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Form PTO-1449b, U.S. DEPARTMENT OF COMMERCE (Rev. 2-32) PATENT AND TRADEMARK OFFICE				Attorney Docket No. 60680-705		Serial No. 10/612,434	
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets if Necessary)				Applicants: Wu <i>et al</i>			
				Filing Date July 2, 2003		Group Art Unit: 3743	
U.S. PATENT DOCUMENTS							
Examiner Initial	Document Number	Date (MM/DD/YY)	Name	Class	Subclass	Filing Date if Appropriate (MM/DD/YY)	
	2,039,593	5/5/1936	Hubbuch <i>et al</i>				
	2,582,358	1/15/1952	Schoellerman				
	2,796,239	6/18/1957	Holmes <i>et al</i>				
	2,814,470	11/26/1957	Peterson				
	2,981,520	4/25/1961	Chadburn				
	2,985,434	5/23/1961	Bering <i>et al</i>				
	3,024,003	3/16/1962	Specia <i>et al</i>				
	3,141,500	7/21/1964	Raskin				
	3,818,984	6/25/1974	Nakamura <i>et al</i>				
	4,134,195	1/16/1979	Jacobsen <i>et al</i>				
	4,361,184	11/30/1982	Bengtsson				
	4,478,277	10/23/1984	Friedman <i>et al</i>				
	4,574,876	3/11/1986	Aid				
	4,615,129	10/7/1986	Jackson				
	4,646,815	3/3/1987	Iwata				
	5,009,557	4/23/1991	Dessirier				
	5,028,989	7/2/1991	Naganuma <i>et al</i>				
	5,099,311	3/24/1992	Bonde <i>et al</i>				
	5,129,473	7/14/1992	Boyer				
	5,152,255	10/6/1992	Fukuda				

Examiner Initial	Document Number	Date (MM/DD/YY)	Name	Class	Subclass	Filing Date if Appropriate (MM/DD/YY)
	5,159,529	10/27/1992	Lovgren <i>et al</i>			
	5,174,258	12/29/1992	Tanaka			
	5,205,348	4/27/1993	Tousignant <i>et al</i>			
	5,228,511	7/20/1993	Boquel <i>et al</i>			
	5,251,718	10/12/1993	Inagawa			
	5,273,386	12/28/1993	Luhm			
	5,285,347	2/8/1994	Fox <i>et al</i>			
	5,316,077	5/31/1994	Reichard			
	5,381,510	1/10/1995	Ford <i>et al</i>			
	5,423,376	6/13/1995	Julien <i>et al</i>			
	5,490,559	2/13/1996	Dinulescu			
	5,495,889	3/5/1996	Dubelloy			
	5,517,757	5/21/1996	Hayashi <i>et al</i>			
	5,586,614	12/24/1996	Kouchi <i>et al</i>			
	5,787,613	8/4/1998	Derome			
	5,829,517	11/3/1998	Schmid <i>et al</i>			
	5,984,000	3/23/1999	Ap			
	5,901,037	5/4/1999	Hamilton <i>et al</i>			
	5,918,664	7/6/1999	Torigoe			
	5,934,364	8/10/1999	Chrysler <i>et al</i>			
	5,979,542	11/9/1999	Inoue			
	5,957,230	9/28/1999	Harano <i>et al</i>			
	5,984,000	11/16/1999	Nakamura <i>et al</i>			
	5,992,552	11/30/1999	Eto			
	6,098,706	8/8/2000	Urch			

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	6,227,290	5/8/2001	Nishishita <i>et al</i>			
	6,241,011	6/5/2001	Nakamura <i>et al</i>			
	6,293,338	9/25/2001	Chapman <i>et al</i>			
	6,305,463	10/23/2001	Salmonson			
	6,340,053	1/22/2002	Wu <i>et al</i>			
	6,438,840	8/27/2002	Tavi <i>et al</i>			
	6,536,516	3/25/2003	Davies			

FOREIGN PATENT DOCUMENTS

						Translation	
Examiner Initial	Document Number	Date	Country	Class	Sub-Class	Yes	No
	220,299	3/31/1942	CH				
	OS 2 201 559	7/19/1973	DE				
	33 28 229	10/10/1985	DE				
	202 07 168	09/19/2002	DE				
	297 15 828 U1	12/04/1997	DE				
	297 22 841 U	02/12/1998	DE				
	298 03 166 U	5/20/1998	DE				
	0,805,328	11/5/1997	EP				
	0,807,756	11/19/1997	EP				
	0,826,874	3/4/1998	EP				
	0,890,810	1/13/1999	EP			X	
	0,907,061	4/7/1999	EP				
	1,189,606	10/5/1959	FR				
	1,534,246	7/26/1968	FR				
	2,748,800	11/21/1997	FR				
	2,769,082	4/2/1999	FR				
	2,772,838	6/25/1999	FR				
	2,774,462	8/6/1999	FR			X	
	2,774,463	8/6/1999	FR			X	
	2,774,635	8/13/1999	FR			X	
	2,778,973	11/26/1999	FR				
	2,785,377	5/5/2000	FR			X	
	61-66061	4/4/1986	JP				
	7-280,484	10/27/1995	JP				
						Translation	

Examiner Initial	Document Number	Date	Country	Class	Sub-Class	Yes	No
	766,331	1/23/1957	UK				
	2,277,781	11/09/1994	UK				
	WO 94/23449	10/13/1994	WO				
	WO 01/25711	04/12/2001	WO				
	WO 03/059,598	7/24/2003	WO				
	62 009182	01/17/1987	JP				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

		U.S. publication No 2004/0238162 (Seiler et al) published December 2, 2004 and entitled HEAT EXCHANGER WITH FLOW CIRCUITING END CAPS
		U.S. publication No. 2005/0115700(Martin et al) published June 2, 2005 and entitled BRAZED SHEETS WITH ALIGNED OPENINGS AND HEAT EXCHANGER FORMED THEREFROM
		U.S. publication No. 2005/0115701 (Martin et al) published June 2, 2005 and entitled LOW PROFILE HEAT EXCHANGER WITH NOTCHED TURBULIZER
		U.S. publication No. 2003/0164233 (Wu et al) published September 4, 2003 and entitled LOW PROFILE FINNED HEAT EXCHANGER
		U.S. publication No. 2003/0173068 (Davies et al) published September 18, 2003 and entitled FINNED PLATE HEAT EXCHANGER
		Fuel Cooling Needs for Advanced Diesel Engines by Michael Davies, John Burgers and Nick Kalman in SAE Technical Paper Series, May 19-22, 1997
EXAMINER		DATE CONSIDERED
<p>* Examiner: Initial citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>		

EXPLANATION OF NON-ENGLISH REFERENCE

- CH 220,299 This patent shows a rectangular, generally flat heat exchanger which has a serpentine member that extends between outer sidewalls. Vents appear to be located at opposite ends of the heat exchanger.
- DE OS 2,201,559 This reference teaches a flat type heat exchanger with rectangular sides and a folded internal wall that forms multiple passageways. These passageways are closed at their opposite ends by end plates. There are inlet and outlet openings on one side of the heat exchanger.
- DE 33 28 229 This patent appears to teach a heat exchanger for heat exchange between two fluids passing through parallel, alternating flat tubular structures. The passageways extend through an elongate boxlike structure that forms the external walls.
- DE 202 07 168 This utility model describes a rectangular, generally flat heat exchanger made with a flat top plate, an inner plate 3, a lower cover and a covered folded fin plate 2. A series of flat, transverse flow passageways are formed between the top plate and the internal plate 3.
- FR 1,189,606 This patent shows a heat exchanger with a base plate and a shaped cover plate and a turbulizer arranged between these two plates. Inlet and outlet connections are attached to the cover plate.
- FR 1,534,246 This patent teaches a finned member that has a tubular core from which the fins extend radially. End sections of each main fin are bent at different angles. This finned member is mounted on a hollow shaft as shown in Figure 4.
- JP 61-66061 This patent teaches a heat exchanger with upper and lower plate sections through which fluid passageways extend. These plates are interconnected along one side edge. The bottom plate is formed with a series of parallel fins that extend downwardly.
- JP 7-280484 This patent illustrates a stacked plate heat exchanger that can be fitted with turbulizer members shown in Figure 15. On one side of a pair of plates forming a tubular member, there can be arranged a corrugated fin structure as shown in Figure 18.
- EP 0 805 328 This patent describes a heat exchanger that can be made from a series of side-by-side plates and frame members (see Figure 1).

- EP 0 807 756 This patent shows various plate and finned members for use with fuel lines for heat exchange.
- FR 2,748,800 A heat exchanger is shown having adjacent plates with angled slots therein that criss-cross to define flow channels therebetween.
- DE 297 15 ⁸²⁸~~878~~ This patent illustrates and describes a heat exchanger that is made from two shaped rectangular plates. The two plates when connected form a serpentine fluid passageway that extends back and forth from one end of the plate to the other.
- DE 297 22 841 This patent shows a heat exchanger with a pair of plates defining a serpentine tubular flow passage. A corrugated fin is attached to the pair of plates.
- EP 0 826,874 This patent shows a heat exchanger with fins on one side and a labyrinth of grooves on the opposite side. A flat plate is located adjacent the grooves to define flow passages between the two plates.
- DE 298 03 166 This patent appears to illustrate a finned heat exchanger with two or more circular passageways arranged side-by-side and spaced apart by interconnecting webs. There are a series of fins integrally formed on one side of the heat exchanger.
- EP 0 890 810 This patent shows a fuel cooler that has an extruded or continuously cast main body containing a plurality of longitudinal internal flow channels. This main body has open ends. Another member with cooling ribs or fins is attached to the main body. Finally, end pieces or closing elements are used to close off the open ends of the main body and make the fuel flow in series through the fluid channels in the main body. (An English translation of the reference is attached to the reference).
- FR 2 769 082 This patent describes a heat exchanger comprising a series of stacked plates which are mounted in a housing. A turbulizer structure is apparently arranged between the stacked plates.
- FR 2,772,838 The fuel system consists of a fuel tank, supplying fuel to the injectors, with a fuel reflow circuit to return the fuel to the tank. The excess fuel emerging from the injector, is passed through a heat exchanger, which uses the flow of incoming air to cool the fuel, which is then returned to the fuel tank, and the air is supplied to the engine inlet.
- EP 0 907 061 This patent describes a heat exchanger which has a low profile and which is made from two plates that are spaced apart a short

distance and that are arranged between two tubular tanks for fluid flow. Short parallel fins extend upwardly and downwardly from these plates (see Figure 7). (An English translation of the reference is attached to the reference).

FR 2,774,462 This patent shows a heat exchanger having a corrugated plate attached to a flat plate to define flow channels therebetween. (An English translation of the reference is attached to the reference).

FR 2,774,463 This patent also shows a fuel cooler having a serpentine tube attached to a plate. The plate has cut-outs, tabs and ramps formed in it for directing air flow. (An English translation of the reference is attached to the reference).

FR 2,774,635 This patent shows a fuel cooler consisting of a serpentine tube attached to a louvered plate. (An English translation of the reference is attached to the reference).

FR 2,778,973 This patent illustrates a low profile but curved heat exchanger wherein upper and lower plates are separated by a series of fluid flow passageways. The upper and lower plate sections have a series of short ribs formed externally thereon (see Figure 3). An end plate closes the end of the fluid passageways.

FR 2,785,377 This patent shows a fuel cooler consisting of a serpentine tubular member mounted in a housing having a base and a cover. (An English translation of the reference is attached to the reference).

JP 62009182 Please refer to the English translation of the Abstract attached to the reference.

CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)

Applicant(s): WU ET AL.

Docket No.

60,680-705

Application No.

10/612,434

Filing Date

07/02/2003

Examiner

FLANIGAN

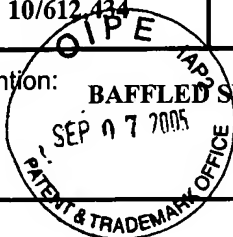
Customer No.

26127

Group Art Unit

3753

Invention: BAFFLED SURFACE COOLED HEAT EXCHANGER



I hereby certify that the following correspondence:

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT, FORM PTO-1449, EXPLANATION OF NON-ENGLISH REFERENCES, and copies of 30 FOREIGN PATENT DOCUMENTS and 1 TECHNICAL PAPER*(Identify type of correspondence)*

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

09/07/2005*(Date)*MARY F. PELTIER*(Typed or Printed Name of Person Mailing Correspondence)**(Signature of Person Mailing Correspondence)*ED164797792US*("Express Mail" Mailing Label Number)***Note: Each paper must have its own certificate of mailing.**